european council for an energy efficient economy

eceee comments on the proposed eco-design regulation for fans 125 W-500 kW

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Summary and proposals

eceee welcomes the proposal for eco-design requirements for fans. However, we cannot support the proposed requirements, which are too weak to achieve the potential savings of 2 TWh liked to this measure.

We welcome that fans integrated into other products are covered by the proposal. The generally low ambition in setting requirements means, however, that the proposed regulation will fail to maximise energy savings in a cost efficient manner. Furthermore, the weak requirements are also likely to penalise the most innovative and quality-oriented part of the European fan industry, and instead stimulate imports of low-cost inefficient products. This regulation should carefully avoid repeating the mistake of the motor requirements, which were far too lax.

In general, we believe that there are too many categories of fans in the proposal, but realise that this cannot be fixed now. It should be considered when this measure is up for review.

eceee proposes that:

- By 2012, the requirements should be those proposed for 2015.
- By 2015, the requirements should be those of the benchmark levels presented in Annex IV.
- Motors intended to operate above 40°C or below -15°C, should not be excluded
- Fans integrated in box-fans and roof-fans should also be required to fulfil the ecodesign requirements for the respective fan type (this is a similar approach that motors integrated into other products also need to fulfil the motor requirements);
- For box-fans and roof-fans, the minimum efficiency requirement should be made independent of the type of fan integrated, and that the level of the requirement should be the one for backward curved fans.
- For fans above 500 W, the minimum requirements for forward and backward curved fans should be the same, and be set at the level of the requirements for backward curved fans (the more stringent level).

After informal contacts with several fan manufacturers, the more stringent requirements proposed by us appear to be realistic and also desired by manufacturers focusing on quality and energy efficiency.

About the European Council for an Energy Efficient Economy (eceee)

eceee is a non-profit, membership-based European NGO. The goal of eceee is to stimulate energy efficiency through information exchange and co-operation. To facilitate this, eceee provides an information service through its website and e-mail newsletter, arranges workshops and conferences, and takes active part in the European Policy making process.

One of eceee's principal events is the Summer Study, held for five days every odd year in the early summer. The Summer Study attracts more than 350 people and offers governments, industry, research institutes and citizen organisations a unique resource of evidence-based knowledge and access to reliable information.

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Specific comments

1. Scope and definitions

Integrated fans

The proposal should include fans integrated into other products. We thus support the current proposal in this respect.

Temperature range

In the proposal there are exclusions for fans with motors operating at ambient temperatures above 40°C and below -15°C. Motors for those temperatures are already "standard" motors for those applications, and fans equipped with such motors should thus not be excluded.

Box fans and roof fans – closing the loophole

The proposed two definitions of enclosures – box fan and roof fan – will create a possibility to market fans either as a fan or as an enclosed fan, due to the difference in requirements. A manufacturer therefore can pick the most advantageous definition. To eliminate this loophole, the fan inside the enclosure must fulfil the required minimum target for that type of fan.

We also believe that the limits for forward curved fans are set too low and should be the same as for backward curved fans.

Based on the above, eceee proposes that:

- Fans with motors operating at ambient temperatures (i) above 40°C or (ii) below -15°C, are not excluded. I.e., the exclusions under Article 1.2.c.i.b and Article 1.2.c.i.i be removed;
- Fans integrated in box-fans and roof-fans must fulfil the eco-design requirements for the respective fan type;
- For box-fans and roof-fans, the minimum efficiency requirement are made independent of the type of fan integrated, and that the level of the requirement should be the one for backward curved fans.

2. Eco-design requirements and time frame

The Eco-design requirements proposed are generally too weak. The 2015 requirements should apply already in 2012. The level for 2015 should be the same as the benchmark levels presented in Annex IV. This view is clearly supported by several individual manufacturers of energy efficiency quality products.

The aim of the Regulation should be to set functional requirements and not regulate the technical solution. However, the Commission's proposal sets different requirements for products with the same function: this seems to aim at keeping individual technologies on the market. This is the case of forward and backward curved fans, which have different requirements but provide the same function. As the efficiency grades are given for centrifugal fans, forward curved fans are favoured over backward curved fans. Thus, the least efficient solution is promoted.

eceee proposes that:

- By 2012, the requirements should be those proposed for 2015;
- By 2015, the requirements should be those of or close to the benchmark levels presented in Annex IV;
- For fans above 500 W, the minimum requirements for forward and backward curved fans should be the same, and set at the level of the requirements for backward curved fans.

3. Various comments

Calculation methods

In Annex II 3.3 no explanation or formula is given when determining the value of compressibility factors. In standards, the compressibility factors Annex II 1 (6) kps and (7) kps are defined. There is also the Mach factor used. The text should either give reference to standards or fully incorporate all explanations.

Language

The word optimum used in many sentences is not distinct and may lead to differing interpretations. Please use “maximum” or “minimum”, depending of the intention. (For an example, see Annex I.1 (14), where it would be better to use the term “maximum efficiency”.

Compensation factors

We agree that fans measured and delivered with a variable speed drive should be compensated as proposed with the “part load compensation factor (Cc). Conversely, we do not think that there should be a “part load compensation factor” for bare shaft fans (“not final assembly”).

4. Verification procedures

The verification procedure described in Annex III corresponds to a 10 % tolerance for the energy efficiency target. This tolerance is understood as covering both the difference between promised product data and the possible scattering between individual units in production. Manufacturers know the scattering of their products and should take them into account when the minimum efficiency figure is declared. Thus a tighter tolerance margin could be stipulated, for instance 5%.

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